

ATTACHMENT ANew Claims

Following herewith is a clean copy of each new claim.

18. (New) An intervertebral implant comprising:

an upper part which has an upper surface for engaging a vertebrae and a lower surface which has a rounded concave portion,

a lower part which has a lower surface for engaging a vertebrae and an upper surface which comprises a pair of opposed side walls and an opening along one end of the upper surface between the side walls,

B, an insert having a bottom portion which is shaped to enter the said opening and securely engage said opposed side walls, and a raised portion which is smaller in area, horizontally, than the bottom portion and which projects upwardly from the bottom portion to a convex top which mates with the concave portion of the upper part.

19. (New) An intervertebral implant according to claim 18, wherein at least one of the upper part and lower part have, on its end which includes the opening, engagement means for engaging an instrument for insertion of the upper and lower parts into a space between adjacent vertebrae.

20. (New) An intervertebral implant according to claim 19, the upper part having a downward protrusion which includes the concave portion, said protrusion, in the absence of the insert, being nestable between the opposed side walls of the bottom

part, such that the total height of the upper and lower parts, in the nested condition, without the insert, is less than the additive total height of the upper and lower parts, taken separately.

21. An intervertebral implant according to claim 20, wherein the engagement means comprises instrument receiving apertures on both of the upper and lower parts, and wherein in the nested condition, the apertures of one part overlap vertically with the apertures of the other part.

22. An intervertebral implant according to claim 21, wherein the concave portion and the convex top are spherical.

23. An intervertebral implant according to claim 18, wherein the lower part includes a generally flat surface with three walls including the two said opposed side walls and an end wall located at an end opposite from said opening.

24. An intervertebral implant according to claim 21, including means associated with the lower part for snap fitting the insert into the lower part.

25. An intervertebral implant according to claim 23, wherein said engagement means comprises apertures located in the opposed side walls and opening toward the end where the opening is located.

26. An intervertebral implant according to claim 18, wherein the upper and lower parts are generally rectangular in plan view.

27. An intervertebral implant comprising:

an upper part having an upper surface for engaging a vertebrae and a curved insert receiving bottom surface formed in a downwardly extending protrusion,

a lower part having a lower surface for engaging a vertebrae and a generally flat insert receiving upper surface formed as a recess,

an insert having a curved upper surface for allowing relative movement of the upper and lower parts and located between and engaging the curved bottom surface of the upper part and the generally flat upper surface of the lower part,

the recess in the lower part being defined by raised opposed side walls, and including an opening along one end between the opposed side walls and said insert being insertable onto the upper surface of the lower part laterally through said opening,

and wherein at least one of the upper part and lower part have, at the end thereof where said opening is located, engagement means for engaging an instrument for inserting the upper and lower parts into a space between adjacent vertebrae.

28. An intervertebral implant according to claim 27, wherein the engagement means comprises instrument receiving apertures.

29. An intervertebral implant according to claim 28, wherein the upper part has a downward protrusion which includes the curved insert receiving bottom surface,

said protrusion, in the absence of the insert, being nestable between the opposed side walls of the bottom part, such that the total height of the upper and lower parts, in the nested condition, without the insert, is less than the additive total height of the upper and lower parts, taken separately.

30. An intervertebral implant according to claim 29, including instrument receiving apertures on both of the upper and lower parts, and wherein in the nested condition, the said instrument receiving apertures of one part overlap vertically with the instrument receiving apertures of the other part.

31. An intervertebral implant according to claim 28, wherein the insert includes a generally rectangular lower portion which substantially fills the space formed between the opposed side walls of the lower part.

32. An intervertebral implant according to claim 31, wherein the insert has a raised projection, the curved upper surface of the insert being formed at the top of the projection and being spherical, and the curved insert receiving bottom surface of the upper part being concave and spherical.

33. An intervertebral implant comprising:
an upper part having an upper surface for engaging a vertebrae and having a lower surface having a downwardly extending protrusion which is adapted to receive the top of an insert,

a lower part having a lower surface for engaging a vertebrae and an upper surface formed as a recess and adapted to receive the bottom of an insert,

and wherein the protrusion of the upper part is nestable in the recess of the lower part for initial insertion of the two parts together into an intervertebral space.

34. An intervertebral implant according to claim 33, including engagement means in at least one of the upper and lower parts for engagement with an instrument for inserting the upper and lower parts into a space between adjacent vertebrae.

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35. An intervertebral implant according to claim 34, wherein the recess of the lower part includes two opposed side walls, a connecting end wall and an opening along an end opposite from the end wall, and wherein the engagement means comprises openings in the ends of the upper and lower parts at the end of the implant where the opening is located.

36. An intervertebral implant according to claim 35, wherein, in the nested condition, without the insert, the height of the upper and lower parts is less than the additive total height of the upper and lower parts, taken separately.

37. An intervertebral implant according to claim 33, including an insert engagable within the recess of the lower part, said insert having a top with a convex portion, and wherein the lower surface of the upper part has a concave portion shaped to mate with the top of the insert.

38. An intervertebral implant according to claim 37, wherein both the convex top of the insert and the concave portion of the upper part are spherical.

39. An intervertebral implant comprising:

an upper part having an upper surface for engaging a vertebrae and having an insert receiving bottom surface formed in a downwardly extending protrusion,

a lower part having a lower surface for engaging a vertebrae and an insert receiving upper surface comprising opposed side walls which form a recess, wherein without the insert, the protrusion nests within the recess, and

engagement apertures formed at least in the protrusion of the upper part and in the opposed side walls of the lower part for receiving an instrument for inserting the upper and lower parts into a space between adjacent vertebrae, wherein in the nested condition of the upper and lower parts, the engagement openings of the upper and lower parts overlap in the vertical direction.

40. An intervertebral implant according to claim 39, wherein the height of the upper and lower parts, in the nested condition, is less than the additive height of the upper and lower parts, taken separately.

41. An intervertebral implant according to claim 39, including an insert engagable within the recess of the lower part and having a top which has a convex

portion which is engagable with a concave portion in the bottom surface of the downwardly extending protrusion of the upper part.

42. An intervertebral implant according to claim 41, wherein said convex portion and concave portion are spherical.

43. An intervertebral implant comprising:
a generally rectangular upper part having an upper surface for engaging a vertebrae and a curved lower surface for engaging an insert,
a generally rectangular lower part having a lower surface for engaging a vertebrae and a generally flat upper surface for engaging an insert, the upper surface of the lower part having a recess defined by two opposed side walls and an end wall, and including an opening at the end opposite from the end wall,
the insert having a curved upper surface and being insertable horizontally through said opening into the recess for operative engagement of its curved upper surface with the curved lower surface of the upper part.

44. An intervertebral implant according to claim 43, the insert comprising a generally rectangular bottom portion securable by at least said opposed side walls and a top portion projecting upwardly from the bottom portion and of a smaller area, taken horizontally, than the bottom portion.

45. An intervertebral implant according to claim 44, the top of the top portion being convex and the lower surface of the upper part being concave and shaped to mate with the curvature of the top of the insert.

46. An intervertebral implant according to claim 45, wherein the top of the insert and the concave portion of the upper part are spherical.

47. An intervertebral implant according to claim 46, including engagement means in at least one of the upper or lower parts, on the side thereof where the opening is located, for engaging with an instrument for inserting the upper and lower parts into a space between adjacent vertebrae.

48. An intervertebral implant according to claim 43, including means for snap fitting the insert into place on the lower part.

49. An intervertebral implant comprising,
an upper part having an upper surface for engaging a vertebrae and a lower surface for engaging an insert,

a lower part having a lower surface for engaging a vertebrae and an upper surface for securing an insert,

an insert located between the upper and lower parts,

at least one of the upper part and lower part having engaging means for engaging instruments for insertion of the upper part and lower part together into an intervertebral space between two adjacent vertebrae,

the upper part and lower part each having a lead end which leads as the implant is inserted into the intervertebral space and a trailing end opposite the lead end, and said engaging means being located only on the trailing end of the at least one upper and lower part such that insertion instruments may be located only in a working space between parallel lines defined by opposed sides of the implant, and

the lower part having an opening located within the working space for allowing insertion movement of the insert into the space between the upper and lower parts.

50. An intervertebral implant according to claim 49, wherein the engaging means comprise apertures in the trailing end of at least one of the upper and lower parts.

51. An intervertebral implant according to claim 50, including said apertures in both of the upper and lower parts.

52. An intervertebral implant according to claim 49, wherein the upper and lower parts are generally rectangular in plan view.

53. An intervertebral implant comprising,
an upper part having an upper surface for engaging a vertebrae and a lower surface for engaging an insert,
a lower part having a lower surface for engaging a vertebrae and an upper surface for securing an insert,
the upper part and lower part each having a lead end which leads as the implant is inserted into the intervertebral space and a trailing end opposite the lead end and including two lateral sides,
a single anchor on each of the upper surface of the upper part and the lower surface of the lower part, each anchor being located along a line midway between said lateral sides and of a height sufficient to anchor its respective part into a groove cut into the vertebrae which that surface engages, and the anchors having teeth on the tops thereof to prevent their removal from their respective grooves.

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54. An intervertebral implant comprising:
an upper part having an upper surface for engaging a vertebrae and a curved insert receiving bottom surface,
a lower part having a lower surface for engaging a vertebrae and an insert receiving upper surface,
an insert having a curved upper surface for allowing relative movement of the upper and lower parts and located between and engaging the curved bottom surface of the upper part and the insert receiving upper surface of the lower part,

the insert receiving upper surface of the lower part being defined by raised opposed side walls, and including an opening along one end between the opposed side walls and said insert being insertable onto the upper surface of the lower part laterally through said opening,

or
B₁ the insert receiving upper surface including a detent recess with an edge extending across the insert receiving upper surface generally perpendicular to the opposed side walls, and said insert having a downward protrusion extending across the insert parallel to the edge of the detent recess, which downward protrusion is resiliently engagable in the detent recess.
